

### Abstract

A method and apparatus for utilizing unused power available in an elevator that is not fully loaded to improve the traffic handling capacity of an elevator system. The present invention can be used to provide an optimized velocity profile for the elevator based on the pre-designed power of the drive motor and the actual load in the elevator. By using the surplus power available the method and apparatus of the invention can achieve velocities higher than the design velocity of the system. The method also utilizes surplus torque available to the motor during a trip to produce an optimized velocity profile that has a short trip time, yet does not exceed the torque deliverable by the motor and does not exceed acceptable discomfort levels to the passengers or mechanical limitations on the system.